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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/895,466	06/29/2001	Robin Budd	EMC-00-066	6561
24227	7590	11/29/2004	EXAMINER	
EMC CORPORATION OFFICE OF THE GENERAL COUNSEL 176 SOUTH STREET HOPKINTON, MA 01748			CASIANO, ANGEL L	
		ART UNIT	PAPER NUMBER	2182

DATE MAILED: 11/29/2004

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary	Application No.	Applicant(s)	
	09/895,466	BUDD ET AL.	
	Examiner	Art Unit	
	Angel L Casiano	2182	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --
Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) Responsive to communication(s) filed on 29 June 2004.
- 2a) This action is FINAL. 2b) This action is non-final.
- 3) Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) Claim(s) 1-16 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) Claim(s) _____ is/are allowed.
- 6) Claim(s) 1-16 is/are rejected.
- 7) Claim(s) _____ is/are objected to.
- 8) Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) The specification is objected to by the Examiner.
- 10) The drawing(s) filed on 07 January 2002 is/are: a) accepted or b) objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
 - a) All b) Some * c) None of:
 1. Certified copies of the priority documents have been received.
 2. Certified copies of the priority documents have been received in Application No. _____.
 3. Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- 1) Notice of References Cited (PTO-892)
- 2) Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
Paper No(s)/Mail Date 20010806.
- 4) Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____
- 5) Notice of Informal Patent Application (PTO-152)
- 6) Other: _____

DETAILED ACTION

The present Office action is in response to application filed 29 June 2001.

Claims 1-16 are pending.

Information Disclosure Statement

1. The information disclosure statement (IDS) submitted on 06 August 2001 was filed after the mailing date of the application on 29 June 2001. The submission is in compliance with the provisions of 37 CFR 1.97. Accordingly, the information disclosure statement is being considered by the examiner.

Drawings

2. The drawings are objected to as failing to comply with 37 CFR 1.84(p)(5) because they do not include the following reference sign(s) mentioned in the description:

- Figure 1, "20", "21".

Corrected drawing sheets in compliance with 37 CFR 1.121(d) are required in reply to the Office action to avoid abandonment of the application.

3. The drawings are objected to as failing to comply with 37 CFR 1.84(p)(5) because they include the following reference character(s) not mentioned in the description:

- Multiple reference numbers are missing from the Specification
 - E.g. Figure 1, "34, 36, 37, 39, 49..." Figure 2, 50; Figure 5, "104, 106, 120..."

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Corrected drawing sheets in compliance with 37 CFR 1.121(d), or amendment to the specification to add the reference character(s) in the description in compliance with 37 CFR 1.121(b) are required in reply to the Office action to avoid abandonment of the application.

4. The drawings are objected to because black boxes in Figures 2, 3, and 7 need to be labeled as to their function. Corrected drawing sheets in compliance with 37 CFR 1.121(d) are required in reply to the Office action to avoid abandonment of the application.

Any amended replacement drawing sheet should include all of the figures appearing on the immediate prior version of the sheet, even if only one figure is being amended. The figure or figure number of an amended drawing should not be labeled as "amended." If a drawing figure is to be canceled, the appropriate figure must be removed from the replacement sheet, and where necessary, the remaining figures must be renumbered and appropriate changes made to the brief description of the several views of the drawings for consistency. Additional replacement sheets may be necessary to show the renumbering of the remaining figures. The replacement sheet(s) should be labeled "Replacement Sheet" in the page header (as per 37 CFR 1.84(c)) so as not to obstruct any portion of the drawing figures. If the changes are not accepted by the examiner, the applicant will be notified and informed of any required corrective action in the next Office action. The objection to the drawings will not be held in abeyance.

Claim Rejections - 35 USC § 112

5. The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

6. Claims 1-10 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

7. Regarding claim 1, this recites “an internal thread”. However, Examiner respectfully submits that the term “internal” is not clear as to the other components in the claim. Claims 1-10 depend either directly or indirectly upon claim 1 and are therefore rejected under the same basis.

8. Regarding claim 4, this is dependent upon itself. Examiner respectfully submits that for the purposes of this Office action, this claim will be believed to depend from claim 1. Claims 5-6 and 8-10 depend from claim 4 and are therefore rejected under the same basis.

9. Claim 4 also recites, “preconfiguring the application”. There is insufficient antecedent basis for this limitation.

10. Claim 7 also recites, “the receive volume”. There is insufficient antecedent basis for this limitation.

11. Claim 8 recites the limitation “geographically remote”. This term is unclear as to its meaning, when considering the elements claimed.

Claim Rejections - 35 USC § 103

12. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

13. Claims 1-3 are rejected under 35 U.S.C. 103(a) as being unpatentable over Tsai et al. [US 5,948,079] in view of Webber [US 6,529,518 B1].

Regarding claim 1, Tsai et al. teaches a computer system having a plurality of computers connected to storage system (see Figure 1, elements 104, 108, 110, 106, 102, 114), each computer having software capable of sending and receiving network (element 110) information. Tsai et al. teaches a method for receiving transmission packets and placing the transmission packets into a queue determined by the type of transmission packet (see col. 2, lines 45-60, “buffer”). This step is accomplished by the reference by having a descriptor for the packet (see col. 4, lines 1-7). However, the reference fails to teach the step of upon filling the buffer to a predetermined point, waking the internal thread to process the filled buffer, wherein the internal thread writes the contents of the buffer to the storage system, as claimed. Regarding this limitation, Webber teaches a buffer in a network system (see col. 9, lines 15-19) where upon reaching a predetermined point (e.g. “one quarter full”) it is emptied. Accordingly, one of ordinary skill in the art at the time of the invention would have been motivated to combine the cited disclosures in order to implement optimized processing of data packets within a computer system according to data speed, as taught by Tsai et al. (see col. 5, lines 55-57; col. 6, lines 1-4).

As for claim 2, Tsai et al. teaches submitting the transmission packets to the write buffer (see Figure 3, elements “312” and “316”; col. 4, lines 4-5).

As for claim 3, Tsai et al. fails to teach the step of, upon filling the buffer to a predetermined point, processing (transporting the packets) the filled buffer. Regarding this limitation, Webber teaches a buffer in a network system (see col. 9, lines 15-19) where upon reaching a predetermined point (e.g. “one quarter full”), the packets are transported.

14. Claims 4-9 are rejected under 35 U.S.C. 103(a) as being unpatentable over Tsai et al. [US 5,948,079] in view of Webber [US 6,529,518 B1] in further view of Lozowick et al. [US 5,228,083].

As for claim 4, the combination of references does not teach writing the packets upon unavailability of the network. Regarding this limitation, Lozowick et al. teaches a method in which inbound packets are stored in a buffer (see col. 2, lines 25-29, 51-58). Therefore, if the connection to the network is unavailable but an interface is available, packets are transmitted out of the buffer. The prior combination of references (Tsai et al. in view of Webber) teaches communication optimization for different speeds in data transmission (see col. 5, lines 52-67). Therefore, one of ordinary skill in the art would have been motivated to modify the combination of references in order to implement an optimized data processing method for the event of network disconnection, as taught by Lozowick et al.

As for claim 5, the combination of references (see Tsai et al.) teaches a storage system having a “send” and “receive” section (see Figure 3). The contents of the buffer are written to a second volume (see Figure 3, “312”, “316”; col. 3, line 67).

As for claim 6, these volumes are located separately (see Tsai et al., Figure 3, “312”, “314”).

As for claim 7 (*this claim is construed as being dependent upon claim 4, due to the lack of antecedent basis in the language*), the combination of references (see Tsai et al.) teaches transmission packets having a header which indicates the portion read (see Figure 4, “1A”-“3A” written into buffer “316”).

As for claim 8, the combination of references (see Tsai et al.) teaches a storage system having a “send” and “receive” section (see Figure 3). The contents of the buffer are written to a second volume (see Figure 3, “312”, “316”; col. 3, line 67). The combination of references does not teach two separate volumes. Nonetheless, it would have been obvious to position the elements in the system, as part of a network, geographically apart from each other.

As for claim 9, the combination of references (see Tsai et al., col. 3, lines 6-17) teaches controlling the writing process to the buffer.

As for claim 10, the process of copying contents is done upon a command (see Tsai et al., col. 3, line 15, “controls”).

15. Claims 11-16 are rejected under 35 U.S.C. 103(a) as being unpatentable over Tsai et al. [US 5,948,079] in view of Lozowick et al. [US 5,228,083].

Regarding claim 11, Tsai et al. teaches a computer system having a plurality of computers connected to storage system (see Figure 1, elements 104, 108, 110, 106, 102, 114), each computer having software capable of sending and receiving network (element 110) information. Tsai et al. teaches a method for receiving transmission packets and placing the transmission packets into a queue determined by the type of transmission packet (see col. 2, lines 45-60, "buffer"). This step is accomplished by the reference by having a descriptor for the packet (see col. 4, lines 1-7). Tsai et al. does not teach writing the packets upon unavailability of the network. Regarding this limitation, Lozowick et al. teaches a method in which inbound packets are stored in a buffer (see col. 2, lines 25-29, 51-58). Therefore, if the connection to the network is unavailable but an interface is available, packets are transmitted out of the buffer. Tsai et al. teaches communication optimization for different speeds in data transmission (see col. 5, lines 52-67). Therefore, one of ordinary skill in the art would have been motivated to modify the Tsai et al. reference in order to implement an optimized data processing method for the event of network disconnection, as taught by Lozowick et al.

As for claim 12, Tsai et al. teaches reading the volume after it is written (see col. 3, lines 6-28).

As for claim 13, Tsai et al. teaches a plurality of applications (see Abstract). Nonetheless, the combination of references does not teach clustering specifically. However, one of ordinary skill in the art would have been motivated to implement clustering as part of the plurality of applications, since it is well known in the art.

As for claim 14 and 15, the combination of references teaches a computer network (see Tsai et al., Figure 1). It is well known in the art that the Internet is an example of one of the networks that would be included as part of the prior art disclosure.

As for claim 16, the combination of references (see Tsai et al.) teaches a storage system having a “send” and “receive” section (see Figure 3). The contents of the buffer are written to a second volume (see Figure 3, “312”, “316”; col. 3, line 67). The combination of references does not teach two separate volumes. Nonetheless, it would have been obvious to position the elements in the system, as part of a network, geographically apart from each other.

Conclusion

16. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure:

- Chiang et al. [US 6,731,596 B1] teaches a network switch having system for automatically detecting change in network node connection.
- Murata [US 6,526,049 B1] teaches packet-transferring device.
- Krishnamurthy et al. [US 6,421,676 B1] teaches scheduling in a distributed data collection process is performing locally, within collectors.
- Wang et al. [US 6,327,625 B1] teaches FIFO-based network interface supporting out-of-order processing.
- Yoshizawa et al. [JP 10161955] teaches communication method for computer network.

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Any inquiry concerning this communication or earlier communications from the examiner should be directed to Angel L Casiano whose telephone number is 571-272-4142. The examiner can normally be reached on 9:00-5:00 pm.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Jeffrey Gaffin can be reached on 571-272-4146. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

Alc
22 November 2004



KIM HUYNH
PRIMARY EXAMINER

11/24/04